

ABSTRACT

In a wide gap semiconductor device of SiC or the like used at a temperature of 150 degrees centigrade or higher, the insulation characteristic of a wide gap semiconductor element is improved and a high-voltage resistance is achieved. For these purposes, a synthetic high-molecular compound, with which the outer surface of the wide gap semiconductor element is coated, is formed in a three-dimensional steric structure which is formed by linking together organosilicon polymers C with covalent bonds resulting from addition reaction. The organosilicon polymers C have been formed by linking at least one organosilicon polymers A having a crosslinked structure using siloxane (Si-O-Si combination) with at least one organosilicon polymers B having a linear linked structure using siloxane through siloxane bonds.